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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123525

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ACTIVE LAYER OF THE OCEAN IS THAT LAYER OF WATER FROM THE SURFACE TO THE DEPTH BELOW WHICH THERE IS NO DETECTABLE ANNUAL TEMPERATURE VARIATION. THE LOWER BOUNDARY OF SUCH AN ACTIVE LAYER  $H$  IN THE TEMPERATURE LATITUDES IN THE OPEN OCEAN IS USUALLY SITUATED AT A DEPTH OF 200-250 M. THE WATER TEMPERATURE  $T_{SUBH}$  AT THESE DEPTHS VARIES NOT MORE THAN 0.5-1 DEGREES DURING THE COURSE OF THE YEAR. HOWEVER, AT THE OCEAN SURFACE THE AMPLITUDE OF ANNUAL WATER TEMPERATURE VARIATIONS CAN ATTAIN 8-10 DEGREES C. THE CHARACTERISTIC SEASON TEMPERATURE VARIATIONS  $T_{SUBS}$  AT THE SEA SURFACE AND THE HEAT FLUX  $Q_{SUBS}$  THROUGH THE OCEAN ATMOSPHERE DISCONTINUITY ARE SHOWN IN FIGURE 1 IN THE TEXT. BETWEEN APRIL AND SEPTEMBER (THE PERIOD OF SPRING SUMMER HEATING WHEN  $Q_{SUBS}$  IS GREATER THAN 0) THERE IS AN INCREASE IN THE TEMPERATURE OF SURFACE WATERS AND FROM THE BEGINNING OF AUTUMN TO FEBRUARY (PERIOD OF AUTUMN WINTER COOLING WHEN  $Q_{SUBS}$  IS GREATER THAN 0) THE WATER TEMPERATURE DECREASES. DURING THE PERIOD OF OCEAN HEATING THE WATER TEMPERATURE DROP  $T_{SUBS}-T_{SUBH}$  BECOMES SO GREAT THAT IT BEGINS TO EXERT AN INFLUENCE ON THE EFFECTIVE HEAT CONDUCTIVITY OF THE ACTIVE LAYER. IF THE PRINCIPAL SOURCE OF ENERGY OF VERTICAL MIXING ACTS ONLY FROM THE OCEAN SURFACE (WIND), AT SOME DEPTH THE PRESENCE OF A DENSITY GRADIENT (OR  $T_{SUBS}-T_{SUBH}$ ) CAN LEAD TO A TOTAL ATTENUATION OF THE ENERGY CONTAINING COMPONENTS OF VERTICAL TURBULENCE.

UNCLASSIFIED

4/4 020

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123525

ABSTRACT/EXTRACT--DURING THIS PERIOD OF CONVECTIVE WIND MIXING (AUTUMN WINTER COOLING) THERE IS A DESTRUCTION OF THE SUMMER THERMOCLINE DUE TO A DEEPENING OF THE QUASIHOMOGENEOUS LAYER AND BY THE END OF FEBRUARY ALMOST ALL THE ACTIVE LAYER BECOMES ISOTHERMAL. THE UNSTABLE TEMPERATURE STRATIFICATION IN THE UPPER LAYER OF THE SEA, DUE TO ITS CONTINUING TURBULENCE (CONVECTIVE WIND OR PURELY CONVECTIVE) USUALLY IS ALSO DESTROYED VERY RAPIDLY AND VIRTUALLY ALWAYS DURING THE PERIOD OF AUTUMN WINTER COOLING THERE IS A QUASIHOMOGENEOUS LAYER SO THAT THE TWO LAYERED STRUCTURE OF THE ACTIVE LAYER OF THE OCEAN ALSO PERSISTS AT THAT TIME. SECTIONS 2, 3 AND 4 IN THIS PAPER ARE DETAILED GENERALIZATIONS OF THE FOLLOWING: VERTICAL TEMPERATURE PROFILES IN THE SEASONAL THERMOCLINE, SAMPLE THEORETICAL COMPUTATION OF THE SEASONAL VARIATION OF THICKNESS OF THE QUASIHOMOGENEOUS LAYER AND PROCESSES IN VERTICAL TURBULENT MIXING IN THE SEASONAL QUASIHOMOGENEOUS LAYER.

UNCLASSIFIED

3/4 020

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123575

ABSTRACT/EXTRACT--THIS REGION OF DEPTHS WILL CORRESPOND TO THE REGION OF CRITICAL VALUES OF THE RICHARDSON NUMBER (RI) AND IT IS THERE THAT A DISCONTINUITY FORMS BETWEEN THE UPPER TURBULENT ZONE OF THE OCEAN AND THE REMAINING PART OF THE ACTIVE LAYER. THE POSITION OF THE LOWER BOUNDARY OF THE QUASIHOMOGENEOUS LAYER CAN CHANGE CONSIDERABLY DURING THE YEAR (FROM MONTH TO MONTH). AMONG THE PRINCIPAL FACTORS DETERMINING THESE CHANGES ARE: CHANGE IN OCEAN SURFACE TEMPERATURE  $T_{SUBS}$  DURING THE YEAR AND CHANGES IN THE CONDITIONS OF DYNAMIC MIXING IN THE UPPER LAYER CAUSED PRIMARILY BY CHANGES IN THE WIND REGIME OVER THE SEA. THE ROLE OF THE FIRST FACTOR WILL BECOME OBVIOUS IF IT IS TAKEN INTO ACCOUNT THAT THE RI VALUES AT ANY DEPTH Z ARE DEPENDENT ON  $T_{SUBS}$  SO THAT EVEN WITH A CONSTANT (IN TIME T) INFLUX OF MECHANICAL ENERGY INTO THE UPPER LAYER OF THE OCEAN THE POSITION OF THE DISCONTINUITY BETWEEN THE MIXED LAYER AND THE SEASONAL THERMOCLINE (WHERE RI IS SIMILAR TO  $RI_{SUBCR}$ ) MUST BE DEPENDENT ON  $T_{SUBS}(T)$ . ON THE OTHER HAND, THE INFLUENCE OF THE SECOND FACTOR ON THE TEMPERATURE PROFILE IS DETERMINED PRIMARILY BY THE LOCAL CONDITIONS OF THE WIND REGIME OVER THE SEA AND IN ESSENCE COULD BE DESCRIBED WITHIN THE FRAMEWORK OF THE THEORY OF A QUASISTATIONARY BOUNDARY LAYER. THE ABOVE APPLIES PRIMARILY TO THE PERIOD OF SO CALLED SPRING SUMMER HEATING OR TO THE PERIOD OF FORMATION OF THE SEASONAL THERMOCLINE. WITH THE ONSET OF AUTUMN THE CONTRIBUTION TO VERTICAL MIXING IS NOT ONLY FROM THE WIND (SOURCE OF MECHANICAL ENERGY), BUT ALSO FROM CONVECTION, FORMING AS A RESULT OF HEAT TRANSFER FROM THE OCEAN SURFACE TO THE ATMOSPHERE.

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AA0044634- KITAYGORODSKIY UR 0482 Yu. I.  
Soviet Inventions Illustrated, Section II Electrical, Derwent,

243982 MAGNETOSTRICTIVE TRANSDUCER is loaded by the application of the external load through the transducer whole body, simultaneously to its both butt ends by means of an additional half-wave transformer. This produces a rigid load characteristic.

2/70

The loading device comprises the transducer (1), a half-wave transformer (2), an additional half-wave transformer (3) with a collar (4) for external static load application, placed in the velocity node.

26.4.65 as 1005824/18-10. ZAKHAROV, V. I. et alia. (8.10.69)  
Bul 17/14.5.69. Class 42s. Int.Cl.B 06b.

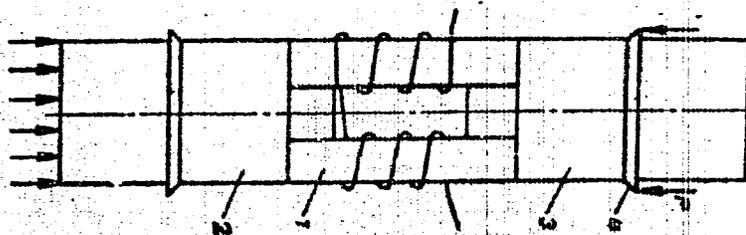
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AUTHORS: Zakharov, V. I.; Kitaygorodskiy, Yu. I.; Stamov-  
Vitkovskiy, A. V.

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USSR

UDC 621.373.421.1(088.3)

KITAYGORODSKIY, Yu. I., BELOUSOV, N. A., SHLENSKIY, Ye. M., VOLODIN, V. P.

"A Magnetostriction Converter With Acoustic Feedback"

USSR Author's Certificate No 148609, Filed 28 Jul 61, Published 16 Mar 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D376 P)

Translation: This Author's Certificate introduces a magnetostriction converter with acoustic feedback for automatically tuning the frequency of a self-oscillator to the mechanical resonance frequency of the converter. In order to obtain feedback voltage sufficient for direct excitation of oscillator tubes with a power of 5-15 kW without additional signal amplification, and to increase operational stability, the converter packet is made in the form of three electrically and magnetically independent elements which have the same natural resonance frequency. Two of these elements form the active link of the converter while the third, which is placed between them, produces the acoustic feedback voltage. Also introduced is a converter which differs from the one described above in that the phase relationships between the excitation and feedback voltages are maintained throughout the working frequency range of the converter by connecting the active elements and acoustic feedback element to the transmitting system of the converter in the same plane perpendicular to the direction of propagation of longitudinal oscillations of the system. The proposed magnetostriction converter may be used in self-oscillator circuits with automatic frequency control, for instance in ultrasonic oscillators which operate with welders. V. P.

1/1

USSR

UDC: 621.317.757

POLUKHIN, Yu. N., ~~KITAYTSEV, A. A.~~

"Spectral Analysis of Microwave Pulses by a Ferrite Converter"

Kiev, IVUZ Radioelektronika, Vol 15, No 5, May 72, pp 597-605

Abstract: A ferrite converter consisting of a ferrite specimen surrounded by a coil connected in a tank circuit is considered for use in spectral analysis of short microwave pulses. It is shown that with appropriate selection of the parameters of the ferrite specimen and tank circuit, the voltage across the converter output reproduces the energy spectrum of the microwave signal acting on the ferrite when the ferrite is tuned. A block diagram and parameters are presented for a pilot model of a spectrum analyzer.

1/1

KITCHEYEV, A.G.

Inert Component Influence on Oxygen and Hydrogen Electrode Operations

Hydrogen Electrode Operations

M. V. Korovin, V. I. Luzin, A. G. Kitchev, M. I. Chibrikov, V. I. Savelyeva

The Moscow Power Engineering Institute

The dependence of porous electrodes characteristics upon an inert component concentration in a binary gas mixtures was studied theoretically and experimentally.

To describe the problem theoretically the following model was taken: a gas mixture flows through a gas chamber, gas concentrations according to the chamber volume being considered constant. Owing to this we may consider the electrode to operate uniformly over its whole surface, i.e. we may consider a one-dimensional problem.

Proceeding from mass-transfer equations in a porous electrode, taking Stefan's flow into account, with  $p(x) = \text{const}$ , one can obtain the following equation:

$$\frac{d^2 \ln C_2}{dx^2} = k_1 \quad (1)$$

where

$p$  - mixture pressure,

$C_2$  - mixture inert component concentration,

$x$  - coordinate,

$k_1$  - proportionality factor,

$i$  - current density per unit of the volume.

USSR

UDC 911.3.613.6(477)

KARPENKO, M. I., and KITEL', V. S.

"The Effect of Atmospheric Air Pollution on the Health of Children in Chervonograd"

Gigiyena naselen. mest. Resp. rezhved. sb. (Hygiene of Populated Districts. Republic, Interdepartmental Collection), vyp. 9, 1970, pp 154-157 (from RZh-36. Meditsinskaya Geografiya, No 1, Jan 71, Abstract No 1.36.189)

Translation: The effect of burning coal mine waste heaps on atmospheric air pollution is examined. A significant increase in the morbidity of respiratory organs in children was established. This is related to the heavy pollution of atmospheric air with carbon monoxide and sulfur dioxide.

1/1

- 53 -

USSR

UDO 533.9.08

LONGINOV, A.V., LITVINOV, A.P., KITEYEVSKIY, L.KH., NIZHNIK, G.YA., FROLOV, V.A.

"System For Preliminary Ionization Of Gas In Closed Magnetic Traps"

Vestn. Khar'kov. politikh. in-ta (Bulletin Of Kharkov Polytechnical Institute), 1970, No 50(98), pp 76-79 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1A238)

Translation: A system is described for preliminary ionization of gas in closed magnetic traps. The system includes a high-frequency pulse generator, a modulator, and a number of electron devices for control and monitoring. A special discharger for obtaining a short trailing edge is introduced into the generator. The following are the basic parameters of the system: power in a pulse, up to 500 kw; operating frequency, 100 kHz; pulse duration, to 5 microsec. 4 ill, 4 ref. Summary.

1/1

USSR

UDC: 51

KITIK, M. G.

"Ordering Intervals in Problems of Two Machines"

Kishinev, V sb. Prikl. mat. i programmir. (Applied Mathematics and Programming collection of works) "Shtiintsya," No 10, 1973, pp 77-81 (from RZh--Matematika, No 1, 1974, Abstract No 1V521)

Translation: For a problem of two machines with criteria, specific rules (obtained through the permutational method) are proposed which may be used as a means of limiting the bifurcation in finding solutions for such problems by the method of successive analysis of the variants. Author's abstract.

1/1

- 88 -

Semiconductors and Transistors

USSR

UDC 621.385.51:621.472

NEGRESKUL, V.V., YORCHAK, L.V. [Letter unclear], KITOROAGA, A.D.

"Study Of Solar Photocells Based On Solid Solutions Of  $GaAs_{1-x}P_x$ "

V sb. Slozhn. poluprovodniki i ikh fiz.svoystva (Complex Semiconductors And Their Physical Properties--Collection Of Works), Kishinev, "Shtiintsa," 1971, pp 52-58 (from RZh:Elektronika i yeye primeneniye, No 4, April 1972, Abstract No 4B312)

Translation: The paper presents the current-voltage characteristics, the dependence of the diffusion capacitance on the biasing voltage, the light and load characteristics and the spectral distribution of the photosensitivity of diffusion p-n junctions based on solid solutions of  $GaAs_{1-x}P_x$ . It is shown that the current-voltage characteristics can be described by the theories of Sa--Noys--Shockley. Photocells from solid solutions of  $GaAs_{0.95}P_{0.05}$  have increased sensitivity in the short-wave part of the spectrum in comparison with Si and GaAs phototransducers. The efficiency of the photocells in question is 3--5 percent. 5 ill. 4 ref. Summary.

1/1

USSR

UDC: 8.74

KITOV, A. I.

"U. S. Automated Information Systems for Medicine"

V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technology and Programming--collection of works), vyp. 7, Moscow, "Sov. radio", 1972, pp 13-23 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V621)

Translation: The article is a description of the operating principles of the MEDLARS and MSIS systems. Some data are given which will be of use to developers of information systems in general, and medical information systems in particular.  
Author's abstract.

1/1

UDC 681.3.06:51

USSR

KITOV, A. I.

"Basic Principles of Construction of an Information Retrieval System (IRS) for  
Medecine"

Tsifr. Vychisl. Tekhnika i Programmir. [Digital Computer Equipment and Programming  
-- Collection of Works], No 6, Moscow, Sovetskoye Radio Press, 1971, pp 17-31,  
(Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V604  
by the author).

Translation: The basic problems and structure of a large volume IRS based on a  
Minsk-22 computer are studied. The system uses a three-stage method of retro-  
spective search, including: a) selection of thematic subfiles using logical  
scales, b) search within subfiles using associative junction structures and c)  
selection of documents using cementic relationships between descriptors. The  
search models of documents are used both for search and for the formation of  
formalized phrases in printing out brief abstracts of documents. The search  
patterns of the documents include, in addition to the basic search descriptors,  
standard descriptors reflecting the basic aspects of the content of medical  
publications. A combination of the descriptor method of indexing and retrieval  
of documents with classification methods (universal decimal classification and  
international patent classification) is called for.

- 58 -

UDC: 8.74

USSR

KITOV, A. I., GRACHEVA, Ye. K.

"On Using Grammatical Facilities and Data Retrieval Systems for Large Masses of Documents"

V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technology and Programming--collection of works), vyp. 7, Moscow, "Sov. radio", 1972, pp 57-68 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V620)

Translation: The paper describes an informational language with a grammar used both for improving the accuracy of description and document retrieval, and for printing out formalized sentences in a natural language. Also described are practically realized algorithms for compiling a lexical dictionary and producing formalized sentences. Authors' abstract.

1/1

- 58 -

UDC: 681.327

USSR

KITOVICH, V. V., STRAKHOV, V. G., BORODKIN, V. M., VOSTRIKOVA, Z. P.,  
SAKHAROV, V. T.

"A Memory Device Using Magnetic Thin Films"

Moscow, Magnit. elementy avtomatiki i vychisl. tekhn. XIV Vses. soveshch.,  
1972. Ref. dokl. (Magnetic Elements in Automation and Computer Technology.  
Fourteenth All-Union Conference, 1972. Abstracts of Papers), 1972, pp 114-  
-117 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1,  
Jan 73, abstract No 1B410 by V. R.)

Translation: The paper describes an immediate-access memory unit using thin  
films with a capacity of  $1024 \times 26$ -digit numbers with an access time of 0.7  
 $\mu$ s and a sampling time of 0.2  $\mu$ s. The device contains: a magnetic film  
module, an address decoding module, a readout-record amplifier module, and  
a localized control module. The memory module for data storage uses four  
magnetic film elements per symbol.

The magnetic film module consists of 16 aluminum matrices, each of  
which contains  $140 \times 66$  Permalloy "spots" measuring 0.3 x 0.5 mm. Provision  
is made in the module for redundant information capacity: there are 96

1/2

USSR

KITOVICH, V. V. et al., Magnit. elementy avtomatiki i vychisl. tekhn. XIV soveshch., 1972. Ref. dokl., 1972, pp 114-117

reserve numbers and seven reserve digital places. The electrical parameters of the memory unit: readout current 250 ma, discharge current 60 ma, output signal 0.5 mv or more with a duration of 50 ns. Structurally the memory unit is made in the form of a block measuring 390 x 290 x 194 mm with a weight of 12 kg. Power consumption is 9 w. Bibliography of one title.

2/2

- 38 -

UDC 632.95

USSR

LYALIKOV, YU. S., and ~~KITOVSKAYA, M. I.~~, Institute of Chemistry of the Academy of Sciences Moldavian SSR

"Method for Quantitative Determination of Zinc Ethylene-bis-dithiocarbamate in Fungicides"

USSR Authors' Certificate No 317973, Cl. G Oln 31/16, G01 n 31/00, filed 5 May 68, published 22 Dec 71 (from RZh-Khimiya, No 14, 25 Jul 72, Abstract No 14N520P by I. A. REVEL'SKIY)

Translation: The method of determining Zn ethylene-bis-dithiocarbamate (I), based on the decomposition of I to  $CS_2$ , on the absorption of the  $CS_2$  by an alkaline solution and on analysis of the resultant xanthate by a known method, is unique in that the sample of analyzed fungicide undergoes thermal decomposition at a temperature of  $170-180^\circ$ . Under these conditions a molecule of I eliminates one molecule of  $CS_2$ .

1/1

UDC 538.4

USSR

GEL'FGAT, Yu. M., KIT, L. G.

"Investigation of Conditions for the Rise of M-Shaped Velocity Profiles Under the Sudden Expansion or Narrowing of MHD Flows"

Riga, Magnitnaya Gidrodinamika, No. 1, Jan/Mar 71, pp 25-30

Abstract: Conditions for the rise of M-shaped velocity structures in a constant magnetic field are analyzed on the basis of a qualitative study of magnetohydrodynamic equations, and the hypotheses made are tested experimentally on MHD flows in sections of sudden expansion and narrowing. The existence of M-shaped velocity profiles in a rectangular flow with sudden expansion was first established experimentally in 1965 by Branover and Shcherbinin; until now, however, a clear physical explanation of the reasons for such a sharp reconstruction of the flow has not been given. It is shown that M-shaped velocity profiles arise in the flow only if the component of the curl of the electromagnetic force projected on the  $y$ -axis is not equal to zero. Results were tested experimentally by studying the distribution of the potential gradients in segments of sudden contraction and narrowing a mercury flow. It was established that the formation of M-shaped velocity profiles occurs when the curl of electromagnetic forces is not equal to zero due to the distribution of electromagnetic forces in the space.

1/1

UDC 536.531:546.92

USSR

SALAMAKHA, V. A., Engineer, LAKH, V. I., KITS, A. I., POLISHCHUK,  
YE. S., Candidates of Technical Sciences

"Stability of Platinum Resistance Thermometers"

Moscow, Pribory i Sistemy Upravleniya, No 2, Feb 71, pp 49-51

Abstract: The variations in metrological parameters ( $R_0$  and  $R_{100}/R_0$ ) of platinum resistance thermometers during prolonged use at operating temperatures are investigated in this article. A special test unit and procedure were devised to run the tests. Presented are results of subjecting the resistance thermometers to cyclic tests under this procedure. Each cycle of the tests (whose over-all duration is 2,000 hours) has the following sequence:

In an oxidizing environment at a temperature of 400-600°C for 400 hours;

1/4

- 25 -

USSR

SALAMAKHA, V. A., et al, Pribory i Sistemy Upravleniya, No 2,  
Feb 71, pp 49-51

At low temperature ( $-196^{\circ}\text{C}$ ) for 150 hours;

Under high-humidity conditions (98-100%) and at a temperature  
of  $30-40^{\circ}\text{C}$  for 120 hours;

With vibration in the frequency range to 60 hertz and acceler-  
ation to 1.5 g lasting 60 hours;

In an oxidizing environment at a temperature of  $400-600^{\circ}\text{C}$  for  
450 hours;

At a temperature of  $-196^{\circ}\text{C}$  for 150 hours;

Under conditions of impact vibration with acceleration to  
1,000 g and a pulse length of 0.5-2 milliseconds lasting 10 hours;

In an oxidizing environment at a temperature of  $400-600^{\circ}\text{C}$  for  
450 hours;

2/4

USSR

SALAMAKHA, V. A., et al, Pribory i Sistemy Upravleniya, No 2,  
Feb 71, pp 49-51

At a temperature of  $-196^{\circ}\text{C}$  for 200 hours.

Three batches of platinum resistance thermometers with calibrations 21 ( $R_0 = 46 \pm 0.046$  ohms) and 22 ( $R_0 = 100 \pm 0.1$  ohms) with a wire diameter of 0.05 mm and with 25 thermometers of each calibration were subjected to stability testing. The three batches included 1) series resistance thermometers with a sensitive element with a mica housing [67, 2) resistance thermometers with a sensitive element in a ceramic housing [27, and 3) resistance thermometers with an improved sensitive element in a ceramic housing using inhibitors to protect the platinum.

The first batch of thermometers demonstrated low resistance to mechanical and thermal loads and very low stability. The second batch demonstrated satisfactory resistance to mechanical and thermal loads at the same time as the metrological characteristics changed somewhat. The third batch were subjected to five

3/4

- 26 -

USSR

SALAMAKHA, V. A., et al, Pribory i Sistemy Upravleniya, No 2,  
Feb 71, pp 49-51

cycles of testing (10,000 hours) with good results. The variations in  $R_0$  and  $R_{100}/R_0$  in 10,000 hours do not exceed the calibration tolerances provided by GOST 6651-59, and the thermometers have high resistance to the cyclic mechanical and thermal variations. The test results are presented graphically for the three batches of resistance thermometers.

4/4

USSR

UDC 537.32

KITS, I. I., STADNYK, B. I., SOLYANYK, L. M., STOLYARCHUK, P. G.

"The Possibility of Using VR-10/20 Thermocouples in Corrosive Substances"

Moscow, Teplofizika Vysokikh Temperatur, Vol 11, No 1, Jan-Feb 73, pp 150-153.

Abstract: The influence of various quantities of inert gas on the thermo-electric properties of the VR-10/20 thermocouple is experimentally studied. Data are presented on the instability of VR-5, VR-10 and VR-20 tungsten-rhenium thermocouples in neutral media; the influence of the inert gas flow rate on the indications of the thermocouple is studied and the optimal value, not influencing the indications of the thermocouple, is established as a function of temperature.

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- 156 -

USSR

UDC 576.858.25.095.15

CHEBAN, D. S., and KITSACK, V. YA., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Changes in Some Biological Properties of Sindbis Virus as a Result of Long-Term Passages at Low Temperatures"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 72, pp 451-453

Abstract: The reproduction of Sindbis virus and its cold-adapted form, P-40, obtained from the initial form by 50 passages through 2-4-day mice in the presence of progressively decreasing temperature, was studied. The behavior of these viruses in *Ae. aegypti*, and their pathogenicity to white mice were compared. At low temperatures (19 and 27°C) the maximum titer of P-40 virus in chick fibroblast culture was 1,000 times lower than that of Sindbis virus, but it was attained sooner by P-40 than Sindbis virus (6 and 10 hours respectively at 27°C). At 37°C the viruses had identical reproduction rates, but the titer of P-40 virus was lower. The lengths of the latent phase and exponential growth phase of the viruses increased with decreasing temperature. Although no differences were noted in the accumulation and survival of the viruses in mosquitos, Sindbis virus was able to penetrate the intestinal wall and enter the salivary glands, while P-40 had lost this property. Consequently only  
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- 3 -

USSR

CHEBAN, D. S. and KITSAK, V. YA., Voprosy Virusologii, No 4, Jul/Aug 72,

pp 451-453

mosquitoes infected with Sindbis virus were able to transmit the pathogen to white mice. Thus low-temperature mutants of Sindbis virus lose their ability to circulate in nature by transmission.

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UDC 576.858.095.5.095.15

USSR

KITSAK, V. Ya., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Changes in Hereditary Properties of Sindbis Virus After Prolonged Cultivation Under Conditions of Lowered Temperature"

Moscow, Voprosy Virusologii, No 2, Mar/Apr 70, pp 177-181

Abstract: Clonal analysis of the virus line passaged in chick embryo fibroblasts at lowered temperature (36-25°C) showed that the population of the "cold" strain was genetically nonhomogeneous. The isolated clones were characterized by low pathogenicity for suckling mice, reduced reproductive activity at 40°C, and smaller size of negative colonies. Some variants showed increased thermoresistance. Virus line passaged at normal temperature (36°C) was also heterogeneous. The clones studied formed small plaques, some of them had reduced reproductive capacity at 40°C, and increased thermostability. Appearance of variants in a cloned virus population which was passaged at normal and lowered temperatures in chick embryo fibroblast cultures indicates that changes in the hereditary properties of the virus are due to mutation induced by tissue culture. The temperature factor plays a selective role in relation to mutants with adequately

1/2

USSR

KITSACK, V. Ya., Voprosy Virusologii, No 2, Mar/Apr 70, pp 177-181

altered properties. The correlation between Sindbis virus pathogenicity and genetic markers such as S- and ret/40 is a one-way proposition. Attenuated variants are S<sup>-</sup> and ret/40<sup>-</sup>, in contrast to pathogenic clones, which have S<sup>+</sup> and ret/40<sup>+</sup> characteristics.

2/2

- 11 -

1/2 022 UNCLASSIFIED PROCESSING DATE--18SEP70  
 TITLE--CHANGES IN THE HEREDITARY PROPERTIES OF SINDBIS VIRUS IN LONG TERM  
 CULTIVATION UNDER CONDITIONS OF LOWERING TEMPERATURE -U-  
 AUTHOR--KITSAK, V.YA.  
 COUNTRY OF INFO--USSR  
 SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 2, PP 177-181  
 DATE PUBLISHED-----70

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PROCESSING DATE--18SEP70

2/2 022

CIRC ACCESSION NO--AP0108934

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. CLONAL ANALYSIS OF THE VIRUS LINE  
PASSAGED IN CHICK EMBRYO FIBROBLASTS AT LOWERING TEMPERATURE  
(36-25DEGREESC) SHOWED THAT THE POPULATION OF THE "COLD" STRAIN WAS  
GENETICALLY INHOMOGENEOUS. THE ISOLATED CLONES WERE CHARACTERISED BY  
LOW PATHOGENICITY FOR SUCKLING MICE, REDUCED REPRODUCTIVE ACTIVITY AS  
40DEGREESC AND SMALLER SIZE OF NEGATIVE COLONIES. SOME VARIANTS SHOWED  
INCREASED THERMORESISTANCE. THE LINE OF VIRUS PASSAGED AT NORMAL  
TEMPERATURE (36DEGREESC) WAS ALSO HETEROGENEOUS. THE CLONES UNDER  
STUDY FORMED SMALL PLAQUES, SOME OF THEM HAD REDUCED REPRODUCTIVE  
CAPACITY AT 40DEGREES AND INCREASED THERMOSTABILITY. APPEARANCE OF  
VARIANTS IN CLONED VIRUS POPULATION WHICH WAS PASSAGED AT NORMAL AND  
LOWER TEMPERATURES IN CHICK EMBRYO FIBROBLAST CULTURE INDICATES THAT  
CHANGES IN THE HEREDITARY PROPERTIES OF THE VIRUS ARE DUE TO MUTATIONS  
WHICH ARE INDUCED BY TISSUE CULTURE. THE TEMPERATURE FACTOR PLAYS A  
SELECTIVE ROLE IN RELATION TO MUTANTS WITH ADEQUATELY CHANGED  
PROPERTIES. CORRELATION BETWEEN SINDRIS VIRUS PATHOGENECITY AND GENETIC  
MARKERS SUCH AS S AND RCT-40 IS OF ONE WAY CHARACTER. ATTENUATED  
VARIANTS ARE S PRIMENEGATIVE AND RCT-40 PRIMENEGATIVE IN CONTRAST TO  
PATHOGENIC CLONES WHICH HAVE S PRIMEPOSITIVE AND RCT-40 PRIME POSITIVE  
CHARACTERS.

UNCLASSIFIED

KITS-KOVYAZINA AA.

AAC043435

UR 0482

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Soviet Inventions Illustrated, Section I Chemical, Derwent,

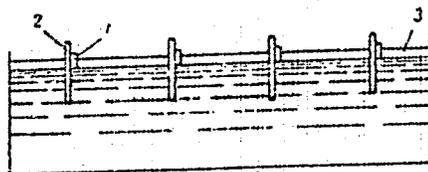
203921 A DEVICE FOR COOLING LIQUID SELF-HEATING ANODE in electrolyzers for the production of aluminium, by means of metallic ribs with their bottom ends immersed in the liquid anode, is characterized in that in order to control temp. along the surface of the anode and to change over the device without stopping the electrolysis, the cooling ribs are made in the form of sections freely fixed to the anode. These sections are made of steel beams and plates made of copper, aluminium or other highly conducting metals. The proposed device consists of steel beams 1 and plates 2. The latter are fixed to the beams 1 and are immersed half-way down their length in the liquid anode. The temp. of the liquid anode can be controlled over its whole area by decreasing or increasing the number of sections and also the number of plates in the sections. This cooling unit can be replaced by a new one without stopping the electrolysis process. 6.2.67. as 1133087/23-1. M.A. KORODOV et al. Irkutsk Aluminium Works (4.7.67.) Bul.10/10.3.69. Class 40c. Int.Cl. C25d.

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19761762

AA0043435



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19761763

AA0043435

AUTHORS: Korobov, M. A.; Shul'ca, B. V.; Yanko, E. A.; Ivanishin, T. A.; Schol', I. I.  
Kostevich, D. N.; Ratmanov, V. N.; Kulakov, A. N.; Kits - Kovyazina, A. A.

Irkutskiy Alyuminiyevyy Zavod

19761764

3/17

USSR

UDC: 533.951

KITSENKO, A. B., STEPANOV, K. N.

"Parametric Excitation of Ion-Acoustic Oscillations of a Plasma in an Alternating Electric Field and a Steady Magnetic Field"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 43, No 7, Jul 73, pp 1422-1425

Abstract: The authors develop a theory of parametric excitation of ion-acoustic oscillations of a strongly nonisothermal plasma ( $T_e \gg T_i$ ) in an alternating electric field  $E = E_0 \sin \omega_0 t$  parallel to a steady magnetic field  $B_0$ . This instability can occur under experimental conditions and may be responsible for an experimentally observed anomalously rapid plasma heating. Short-wave oscillations are considered for which the nonhomogeneity of the plasma and of the electromagnetic field of the pumping wave can be disregarded. Formulas are derived and analyzed for the frequencies and damping constants of the oscillations with resonance in one or more branches. Both fast and slow waves are considered.

1/1

USSR

KITSENKO, A. B., PANKRATOV, I. M., STEPANOV, K. N. (Physicotechnical Institute of the Ukrainian Academy of Sciences)

"Nonlinear Stage of Excitation of Monochromatic Plasma Oscillations in a Magnetic Field by a Charged-Particle Beam"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki; January 1974, pp 166-75

Abstract: The authors consider the excitation of monochromatic longitudinal plasma oscillations in a magnetic field by a beam of oscillators, or charged particles, traversing the plasma parallel to the magnetic field with a constant velocity, possessing identical Larmor radii and uniformly distributed with respect to azimuthal angle. For "glancing" waves the major mechanism leading to oscillation saturation is the disappearance of resonance between the wave and particle due to variation of the beam particle velocity component along the magnetic field induced by the oscillation field. For oscillations propagating perpendicularly to the magnetic field, saturation of the oscillations is due to variation of the transverse velocity and of the azimuthal angle of the beam particles. The oscillation amplitudes under nonlinear conditions are evaluated for all of these cases.

The article includes 43 equations. There are 17 references.

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USSR

UDC 533.9

KITSENKO, A. B., PANCHENKO, V. I., and STEPANOV, K. N., Physico-Technical Institute of the Academy of Sciences, USSR

"Low-Frequency Parametric Instabilities of Plasma in a Variable Electric Field"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 18, No 10, October 1973, pp 1591-1598

Abstract: This article examines non-resonance parametric instability of plasma in a variable electric field, whose frequency is on the order of the lower hybrid frequency  $\omega_{LH}$  or slightly exceeds it. The authors find the increments of growth in the hydrodynamic oscillations of a "cold" plasma with a frequency on the order of  $\omega_{LH}$ , ion-sound and electron-sound oscillations the case in which the drift velocity of the electrons relative to the ions in a direction perpendicular to the magnetic field is greater than the thermal velocity of the ions but less than the thermal velocity of the electrons. The max-

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- 50 -

USSR

KITSENKO, A. B., et al., Ukrainskiy Fizicheskoy Zhurnal, Vol 18, No 10, Oct 73, pp 1591-1598

imal increment of the growth of these oscillations is on the order of  $\omega_{LH}$ . The authors divide this article into several parts and give a detailed description in each. They first discuss the dispersion equation and go onto consider hydrodynamic oscillations. Ion sound and electron sound are studied separately. The article contains 10 bibliographic references.

2/2

UNCLASSIFIED PROCESSING DATE--16OCT70  
 /2 030  
 TITLE--DYNAMICS OF GAS EVOLUTION AND OF GAS CONTAMINATION WITH DUST IN 100  
 TON OXYGEN CONVERTERS -U-  
 AUTHOR--(05)-KRICHEVTSOV, E.A., SHIRINKIN, N.A., REKHTER, V.YA.,  
 KUKURUZNYAK, I.S., KITTAYEV, A.T.  
 COUNTRY OF INFO--USSR  
 SOURCE--STAL' 1970, 30(2), 113-18  
 DATE PUBLISHED-----70

*K*

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR  
 TOPIC TAGS--METAL OXYGEN CONVERSION, EXHAUST GAS DYNAMICS, STEEL  
 MANUFACTURE PROCESS, METALLURGIC FURNACE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAME--1995/0203

STEP NO--UR/0133/70/030/002/0113/0118

ARC ACCESSION NO--AP0115907

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--16OCT70

IRC ACCESSION NO--AP0115907

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SERIES OF 100 TON CONVERTER HEATS SHOWED A MARKED NONUNIFORMITY OF GAS AND DUST EVOLUTION RATES. THE REASONS FOR THIS ARE DISCUSSED. THE RATE OF OPERATIONS IS DEFINED BY THE CAPACITY OF THE GAS REMOVING INSTALLATION, WHICH MUST BE DESIGNED FOR THE MAX. GAS EVOLUTION. FACILITY: KRIVOROZH. MET. ZAVOD, KRIVOI ROG, USSR.

INSTALLATION, WHICH MUST BE DESIGNED FOR THE MAX. GAS EVOLUTION. FACILITY: KRIVOROZH. MET. ZAVOD,

UNCLASSIFIED

1

USSR

UDC: 621.316.174:625.21

BESSONOV, K. S., DUDNICHENKO, A. I., GAMBURG, B. M., ~~KITUSHIN, V. G.~~, MYSLIN, D. A., Siberian Department of the All-Union State Design and Planning and Scientific Research Institute "Energoset'proyekt"

"A Portable Substation"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztzy, Tovarnyye Znaki, No 9, Mar 72, Author's Certificate No 331464, Division H, filed 19 Jan 68, published 7 Feb 72, p 174

Translation: This Author's Certificate introduces: 1. A 220/110/6 kV portable substation containing an open 220 kV distribution device, an autotransformer connected by the 220 kV line to the supply network transformer, an open 110 kV distribution device and a self-contained 6 kV distribution device. As a distinguishing feature of the patent, the device is made more compact and portable by making the autotransformer of the incomplete-phase type and connecting it to the supply network by two phase conductors of the 220 kV line and connecting the neutral of the supply network transformer to the ungrounded neutral of the autotransformer, the neutrals being connected by an ungrounded cable of the 200 kV line. 2. A modification of this substation in which voltage asymmetry at consumer points is eliminated by connecting a booster transformer in the circuit break.

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Acc. Nr.

AT0048615

Abstracting Service:

CHEMICAL ABST.

4/70

KITYK

Ref. Code

UR 0442

V.I.

- 81644z New data on the absolute age of volcanic rocks in the Dnieper-Donets depression. Kityk, V. I.; Smishko, R. M.; Kutsyaba, I. V. (Inst. Geol. Geokhim. Goryuch. Kopaln, Lvov, USSR). *Dopov. Akad. Nauk Ukr. RSN, Ser. B* 1970, 32(1), 17-20 (Ukrain). The abs. age of volcanic rocks near the Upper Devonian saliferous deposits in the northwestern part of Dnieper-Donets syncline was detd. by K-Ar method from 4 samples, taken from holes drilled to various depths. The ages of basic tuff, olivine diabase, trachyte porphyry, and acidic tuff were detd. as 384, 350, 313, and 414 ± 14 million yr. The results obtained agreed with geol. evidence. The data of these abs. age detns. did not agree with the abs. age of the same volcanic rock (500-570 million yr) from salt domes in the same area detd. previously. The disagreement can be caused either by a highly improbable different cycle of magmatism in the salt dome areas or by a gross mistake during study of volcanic rocks in salt domes.

BLJW

J.L.

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REEL/FRAME

19800342

KIV, A. YE.

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18-6. MECHANISMS OF LOW-TEMPERATURE CRYSTALLIZATION

[Article by A. Ye. Kiv, Kiyov Bog: Novosibirsk, III Symposium po Protsessam  
Mesta i Mirovym Poluprovodnykh Materialov i Termu, Novosibirsk, 12-17 June,  
1974, p 47]

The experimental confirmation of the idea of low-temperature radiation-  
stimulated processes in the crystal lattice obtained recently are discussed.  
The problems of the effect of electron excitations on the diffusion-controlled  
reaction surfaces are considered for chemisorption adhesion and epitaxial growth.  
From the point of view of the general physical models, the known experimental  
data with respect to the low-temperature growth are analyzed, in particular,  
photoepitaxy. The different theoretical approaches to the description of the  
stimulated surface reactions are compared. The basic laws are indicated which  
can serve as a basis for more precise definition of the investigated mechanisms.

XIV, A. YE.

SPRS 592 03  
6-73

3

X-2. MACHINE SIMULATION OF GROWTH AND ALLOYING PROCESSES

Article by A. Ye. Kiv, M. Z. Katsionik, Kiyov Ros. Tashkenti Novosibirsk, III Simposium po Fizicheskoi Khimii, Rossiya, SSSR, Moskva, 1972, p. 177

The transition of the atoms in the boundary layer during separated growth of foreign atoms on the substrate is traced. For this purpose, the equilibrium equations are solved on the Minsk-22 computer as applied to some of the simplest grown structures. Qualitative information was obtained on the effect of the pinholes on the thickness and configuration of the transient layer. Known conditions of heteroepitaxy are generalized.

The diffusion equations are solved considering the displaced boundary to obtain impurity concentration profiles in the substrate and the film. The processes of interaction of the impurities and complex formation are introduced into the investigation. The solutions were obtained on the Minsk-22 computer and also on an electric simulator.

USSR

UDC 539.2:539.16.04

KIV. A. YE.

"Nonimpact Mechanisms Producing Radiation Defects"

V sb. Materialy 6-y Zimney shkoly po teorii yadra i fiz. vysok. energii, 1971  
Ch. 3 (Materials of Sixth Winter School on Nuclear Theory and High-Energy  
Physics, 1971, Part 3 -- Collection of Works), Leningrad, 1971, pp 217-234  
(from RZh-Fizika, No 1, Jan 72, Abstract No 1YE978 by YU. M. PLATOV)

Translation: Survey. The article deals with the mechanisms, involving transfer to the lattice of energy from an excited electronic subsystem, which produces radiation defects in solids. Excitation of the electronic subsystem occurs when the solids are subjected to ionizing radiation.

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172 013

UNCLASSIFIED

PROCESSING DATE--02OCT70

TITLE--USE OF CHROMATOGRAPHIC APPARATUS TO STUDY THE STRUCTURE OF LIQUID VAPOR PHASE EQUILIBRIUM DIAGRAMS -U-

AUTHOR--(03)--KIVA, V.N., PARIYCHUK, L.V., SERAFIMOV, L.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 225-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE EQUILIBRIUM, PHASE DIAGRAM, ORGANIC SOLVENT, GAS CHROMATOGRAPHY, AZEOTROPIC MIXTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0805

STEP NO--UR/0076/70/044/001/0225/0227

CIRC ACCESSION NO--AP0107347

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107347

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GAS CHROMATOGRAPHIC SEPN. IS DESCRIBED OF BINARY MIXTS. OF ORG. SOLVENTS (C SUB6 H SUB6, DIOXANE, ME SUB2 CO, CCL SUB4, CHCL SUB3, HEXANE, ETC.) BY EVAPN. OF A SAMPLE INTO FLOWING H OR HELIUM WITH A COLUMN FILLED WITH LOW ADSORPTION ACTIVITY PACKING WITHOUT A STATIONARY PHASE. THE POSSIBILITY OF USING THE KATHARMETER RESPONSE TO THE LIQ. COMPN. TO IDENTIFY AZEOTROPIC MIXTS. IS SHOWN.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70  
 TITLE--EXTENT OF POLARIZATION ACCORDING TO THE FLUORESCENCE AND ABSORPTION  
 SPECTRA OF ANTHRACENE DERIVATIVES -U-  
 AUTHOR--(03)-KIVACH, L.N., SARZHEVSKIY, A.M., KHOMICH, M.I.  
 COUNTRY OF INFO--USSR  
 SOURCE--IZV. AKADE. NAUK SSSR, SER. FIZ. 1970, 34(3), 608-10  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--CHEMISTRY  
 TOPIC TAGS--FLUORESCENCE SPECTRUM, ANTHRACENE, GLYCEROL, BUTANOL, ETHANOL,  
 LOW TEMPERATURE EFFECT  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAE--2000/2021  
 CIRC ACCESSION NO--AP0125609  
 UNCLASSIFIED  
 STEP NO--UR/0048/70/034/003/0608/0610

2/2 021

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0125609

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPECTRA OF 2,ACETYL, ANTHRACENE (I), 9,10,DIPROPENYLANTHRACENE, AND SEVERAL OTHER ANTHRACENE DERIVS. IN GLYCEROL, ISO BUDH, AND ETOH IN A WIDE TEMP. RANGE WERE MEASURED, AND THE POLARIZATION P WAS ESTD. AS A FUNCTION OF FREQUENCY. THUS, IN COOLING A SOLN. OF I, THE EXTENT OF POLARIZATION AT THE SHORT WAVE SIDE OF THE FLUORESCENCE SPECTRUM INCREASED FASTER COMPARED WITH THE LONG WAVE FLUGRESCENCE COMPONENT. THE MAX. POLARIZATION OF I WAS REACHED AT MINUS 30DEGREES IN GLYCEROL BUT ONLY AT SMALLER THAN MINUS 90DEGREES IN BUDH. THE INTERACTION OF THE FLUCRESCING MOL. WITH THE MEDIUM AT DIFFERENT TEMPS. IS DISCUSSED. THE EFFECT OF INTRAMOL. VIBRATIONS ON P IN THE ANTHRACENE DERIVS. COULD BE VERIFIED FROM POLARIZATION STUDIES IN THE LONG WAVE ABSORPTION BAND OF I IN GLYCEROL. FACILITY: BELORUSS. GDS. UNIV. IM. LENINA, MINSK, USSR.

UNCLASSIFIED

USSR

UDC 619:616.981.551-084.47:638.17

KIVALKINA, V. P., Professor, and BUDARKOVA, E. L., Aspirant, Kazan Veterinary Institute

"The Adjuvant Effect of Propolis in Immunization With Tetanus Toxoid"

Moscow, Veterinariya, No 11, 1971, pp 45-46

Abstract: The effect of propolis on the formation of antitoxin and complement activity was studied in rabbits hyperimmunized with sorbed and refined tetanus toxoid. The appearance of antitoxin was noted 2 weeks after the first administration of toxoid, its level increasing thereafter and reaching a maximum on the 42nd day. The antitoxin content was higher in rabbits immunized with a smaller total dose of toxoid than in those injected with the same dose of antigen without propolis. The effect of propolis on the production of antibodies is more pronounced only in combination with a smaller total dose of toxoid. This is explained by the increased reaction of the body to an increased total dose of toxoid without propolis, as compared to a smaller dose. The preventive properties of rabbit sera (tested on mice) increased with accumulation of antibodies in the blood and did not decrease after the level of antibodies had attained its maximum. The sera of animals immunized with toxoid plus propolis proved more protective than the sera of those immunized without propolis. Thus, propolis stimulates the nonspecific factors of immunity in vaccination with tetanus toxoid.

USSR

UDC 519.24

KIVELIDI, V. Kh.

"Combination of Information in One Probabilistic Search Problem"

Neft' i Gaz. [Oil and Gas -- Collection of Works], Moscow, 1971, pp 198-199,  
 (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract  
 No 10 V181 by Yu. Pollyak).

Translation: To estimate the effectiveness of search for elements  $\pi_i$ ,  $i = 1, \dots, n$ , performed by  $m$  methods which differ in their physical sense, it is suggested that the combined reliability function

$$d(\pi_i) = \frac{\prod_{j=1}^m P_j(A_i^j)}{\prod_{j=1}^m P_j(A_i^j) + \prod_{j=1}^m P_j(\bar{A}_i^j)}$$

be used, where  $A_i^j$  is an event (which can be interpreted, in particular, as success of the  $i$ th element of the  $j$ th method); where  $j = \text{const}$ , events  $A_i^j$  are independent in their set;  $P_j(\cdot)$  are the corresponding probabilities. The properties of function  $d(\pi_i)$  are studied.

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- 6 -

USSR

UDC: 620.178.37

STEPANOV, G. A., KIVI, E. A.

"Method of Testing for Thermal Fatigue at Below-Freezing Temperatures"

Moscow, Zavodskaya Laboratoriya, No 11, 1972, pp 1374-1376.

Abstract: The authors have developed a method for thermal fatigue testing during oscillations of temperature in the  $-196$  to  $+20^{\circ}\text{C}$  interval. Considering that the most probable method of formation of cracks is stress concentration, the tests were performed with notched specimens under constant loads. It is demonstrated that in the coordinates of stress versus the logarithm of the number of cycles, the dependence follows a straight line; with a base of 1000 cycles, the short-term strength of the specimen decreases by 15-20%.

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USSR

UDC: 681.121:389.12

TZIP Engineers GAMMERMAN, M. Ya., DANILOV, M. Ya.; KIVILIS, S. S.,  
Docent, Candidate of Technical Sciences

"High-Production Flowmeter"

Moscow, Pribory i sistemy upravleniya, No 9, 1973, p 48

Abstract: This brief article describes a flowmeter developed and operated by TZIP (Tallin Plant for Measurement Instruments) to satisfy demands for a highly accurate means of conducting accurate transmissions of liquid flow units. Also capable of gas flow measurements, the meter provides high productivity in a broad measurement range. A diagram of the device is given together with an explanatory text. Investigation of the prototype, built by the VNIIMSe /expansion unknown/, showed that the measurement error did not exceed  $\pm 0.2$  or  $\pm 0.3\%$ . It is noted that there is practically no upper limit of measurement for the device.

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Acc. Nr:

AF0050564

Abstracting Service:

CHEMICAL ABST. 5170

Ref. Code:

URC109

K

94318w Theory of reaction of ions from a single-crystal face. Parilis, E. S.; Turayev, N. Yu.; Fivilev, A. M. (USSR). *Radiotekhn. Elektron.* 1970, 15(1), 214-17 (Russ). The role of surface atom chains in the ion reflection at sliding angles of incidence was studied by modeling the process on an electronic computer. A program was written for Ar<sup>+</sup> ions (E<sub>0</sub> = 30 keV) on the (100) face of Cu at angles from 8 to 18° in the plane (110). The space and energetic distribution of the reflected particles are given graphically. The results are understandable on the basis of trajectories oriented by the canal effect. G. Thiot

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REEL/FRAME  
19810554

USSR

UDC: 51

KIVISTIK, L., KHIYESALU, U.

"Gomori's Third Algorithm in the Case of Bilateral Limitations"

Tr. vychisl. tsentra. Tartus. un-t (Works of the Computing Center. Tartu University), 1971, vyp. 22, pp 25-34 (from RZh-Kibernetika, No 5, May 72, Abstract No 5V423)

Translation: Gomori's third algorithm is considered (using the notation followed in RZh-Mat, 1969, 12V435K). It is shown that the algorithm can be generalized to problems with bilateral limitations. By introducing an artificial basis, this generalization can also be used to solve problems for which a whole-number basis pseudoplan is unknown. Yu. Finkel'shteyn.

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USSR

UDC 615.281:547.793.2 (Furazolidonum).015.46

YEFREMOVA, YU. M., KIVMAN, G. YA., and FINN, G. R., Chair of Microbiology,  
Volgograd Medical Institute

"The Effect of Furazolidone on Some Aspects of Immunity"

Moscow, Farmakologiya i Toksikologiya, Vol 35, No 2, Mar/Apr 72, pp 210-213

Abstract: In rabbits previously immunized with killed typhoid bacteria, furazolidone given in daily enteral doses of 7 mg per kg body weight reduces neither the complement and agglutinin titers nor the bactericidal activity of blood serum. In mice given identical doses of furazolidone for two days and then inoculated with an intraperitoneal LD<sub>50</sub> of typhoid fever bacteria, phagocytosis and resistance are considerably increased, yielding a higher survival rate: 78% as compared with 58% in the controls. It is suggested that this immunity-promoting effect of furazolidone may find practical application.

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1/2 020 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--COMPARISON OF GEL FILTRATION METHOD WITH THE METHODS WIDELY USED IN  
STUDIES ON PENICILLIN BINDING BY SERUM ALBUMINS --U-  
AUTHOR--(02)-GEYTMAN, I.YA., KIVMAN, G.YA.

COUNTRY OF INFO--USSR

SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 5, PP 431-434

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PENICILLIN, FILTRATION, BLOOD SERUM, ALBUMIN,  
ANTIBIOTIC/(U)OXACILLIN ANTIBIOTIC, (U)METHICILLIN ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAHE--1994/0138

STEP NO--UR/0297/70/015/005/0431/0434

CIRC. ACCESSION NO--AP0114534

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114534

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPARATIVE STUDIES ON BINDING OF BENZYL PENICILLIN, OXACILLIN AND METHICILLIN WITH THE USE OF SUCH METHODS AS GEL FILTRATION, EQUILIBRIUM DIALYSIS AND DETERMINATION OF ANTIBIOTIC ACTIVITY IN ALBUMIN AND FREE OF ALBUMIN SOLUTIONS AT THEIR DIFFUSION TO AGAR WERE CARRIED OUT. COMPARISON OF THE DATA ON BINDING, OBTAINED WITH THE ABOVE METHODS SHOWED THE COMPLEX ALBUMIN ANTIBIOTIC TO BE STABLE. OXACILLIN BINDING WITH SERUM ALBUMIN WAS MOST STABLE, THEN FOLLOW BENZYL PENICILLIN AND METHICILLIN. DIFFERENCES IN THE DATA ON PENICILLIN BINDING BY BLOOD SERUM AND ALBUMIN OBTAINED WITH DETERMINATION OF THE ANTIBIOTIC ACTIVITY IN ALBUMIN AND FREE OF ALBUMIN SOLUTIONS AT THEIR DIFFUSION TO AGAR MAY BE ATTRIBUTED TO DEPENDENCE OF THE ANTIBIOTIC DIFFUSION CAPACITY ON THE SOLVENT USED AND TO SOME EXTENT OF VARIOUS STABILITY LEVELS OF PENICILLIN COMPLEXES WITH SERUM ALBUMINS AND ALBUMINS ALONE. FACILITY: N. A. SEMASHKO HOSPITAL NO. 1, MOSCOW.

UNCLASSIFIED

USSR

UDC: 621.397:612.843.721

KIVRIN, V. I., NOVOZHILOV, D. N., SHUMLYAYEV, V. S.

"On Calculating the Optical System of a Stereo Television Camera With Short Transmission Basis"

V sb. Materialy Nauch.-tekhn. konf. Leningr. elektrotekhn. in-t svyazi. Vyp. 3 (Materials of the Scientific and Technical Conference of Leningrad Electrical Engineering Institute of Communications--collection of works), Leningrad, 1971, pp 102-105 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3G114)

Translation: Two types of attachments for a stereo television camera with short transmission basis are considered. The advantages of constructing a stereo television camera with orthogonal arrangement of the transmitting tubes and semitransparent mirror are demonstrated. Resumé.

1/1

K

USSR

UDC 621.397:612.843.721

KOLIN, K. T., KIVRIN, V. I., MOROZOV, V. A.

"Stereotelevision Camera with a Small Transmission Base"

Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi. Vyp. 3 (Materials of the Scientific and Technical Conference. Leningrad Electrotechnical Communications Institute. Vyp. 3), Leningrad, 1970, pp 36-39 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8G116)

Translation: This article contains an investigation of possible means of constructing stereotelevision cameras with a small transmission base for one and two-channel stereotelevision systems. The expediency of applying two methods of constructing stereotelevision cameras with orthogonal arrangement of the transmitting tubes in which the transmission base can vary from zero to any given value is demonstrated.

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- 769 -

USSR

UDC: 621.396.96:681.32

ZHODZISHSKIY, A. I., KIY, A. A.

"Utilizing the Envelope in Measuring the Phase and Frequency of a Harmonic Signal in the Presence of Noise"

Tr. Mosk. aviats. in-ta (Works of the Moscow Aviation Institute), 1970, vyp. 201, pp 99-112 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1G22)

Translation: The use of digital computers for processing radio signals is becoming ever more commonplace in measurements in radar and radio navigation systems. The authors feel that digital computer processing of the so-called phase signal obtained from the received signal by certain linear transformations is preferable to processing the entire signal in measuring the phase and frequency of a radio signal. Two methods of processing are considered -- with and without the use of a reference voltage having a frequency close to or equal to that of the signal. It is shown that measurement precision can be improved when the information included in the envelope of the radio signal is utilized. Five illustrations, bibliography of five titles. N. S.

1/1

KIY, K.II

SO: JFAS 59608  
25 JULY 1973

①

POSSIBILITY OF LOGICAL AND ARITHMETIC OPERATIONS IN MAGNETIC DOMAIN DEVICES

K. I. KIY

PP 114-115

Introduction

Questions connected with the possibility of accomplishing logical and arithmetic operations in magnetic domain devices were examined in the paper of Graham [1]. We will briefly describe the formulation of the problem by Graham and the results he obtained. We will designate the set of possible positions of domains in a crystal by  $V$ . We will by a convention call those positions eplices.

The set of eplices in which there are domains have been designated by  $X$ . Executive programs consisting of instructions act on the set  $X$ . An instruction is designated by  $(x_i, y_j)$ , where  $x_i$  and  $y_j \in V$ . The rule according to which  $(x_i, y_j)$  act on  $X$  is given in the following manner:

$$(x_i, y_j) \rightarrow x_i - 1, y_j + 1, \text{ or } y_j + 1, x_i + 1; K: (1)$$

$X$  in the remaining cases.

If at the epex  $x_i$  there is a domain and at the epex  $y_j$  there is no domain, then the domain from epex  $x_i$  goes over to the epex  $y_j$ ; in other cases nothing occurs.

Graham showed the impossibility of accomplishing translation and addition in that model. Also shown was the possibility of realization of a Boolean function with a number of variables  $\leq 4$ , and it was shown that there exists a Boolean function with 11 variables which cannot be realized.

In the present note it is shown that by means of control operations of another kind programs of transcription, complement the addition of positive numbers and the realization of Boolean functions of any number of variables are realized.

1. Transcription and Complement

Let the subset  $B = \{b_i\}$  be separated in the set of aplice  $V$ . The auxiliary cell  $c_i \in C = \{c_i\}$  corresponds to each element  $b_i \in B$ .

Let us examine a control operation -- instruction, definable by the following rule:

$$(a_i^j) X = \begin{cases} 1 - a_i^j / 1 - a_i^j & \text{if } a_i^j \in A \\ 1 - a_i^j / a_i^j & \text{if } a_i^j \in B \end{cases} \quad (1)$$

$X =$  in the remaining cases

If there is a domain in  $a_i$  and no domain in  $b_i$ , then the domain from  $a_i$  goes over into  $b_i$ . If there is a domain in  $a_i$  and  $b_i$ , the domain from  $a_i$  expands the domain from  $b_i$  into  $c_i$  and itself returns to its place. If there is no domain in  $a_i$ , nothing occurs.

Let the cell  $a$  consist of  $n$  aplices of  $V$ . Those aplices have been re-numbered  $a_1, \dots, a_n$ . Then in cell  $a$  one can record any  $n$ -digit binary number. The presence or absence of a domain in  $a_i$  designates 1 or 0 respectively in the  $i$ -th position of the recorded number. To accomplish the operations of transcription and complement three cells are required. We will designate them  $a, b$ , and  $c$ .

In  $b$  is recorded a number consisting of 1's, and in  $c$  one consisting of 0's. Let us examine the program

$$A = (a_1 a_2) \dots (a_n) \\ B = (a_1 a_2) \dots (a_n)$$

After application of program  $A$  in cells  $a$  and  $c$ , the content of cell  $a$  is found, and in cell  $b$ , the content of  $a$  in complement.

USSR

GRITSYNA, V. V., KIYAN, T. S., KOVAL', A. G., FOGEL', Ya. M., SERYUGIN, A. L., MARTYNOV, I. S., Khar'kov State University imeni A. M. Gor'kiy

"Concerning the Mechanism of Luminescence of Polymer Films Which Arises as They are Being Formed Under Ion-Beam Bombardment of Solids"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 64, No 1, Jan 73, pp 207-216

Abstract: On the basis of experimental results, the authors suggest a new mechanism for luminescence of polymer films forming on a solid as a result of ion-beam dissociation of hydrocarbon molecules adsorbed on the surface of a bombarded target. It is shown that luminescence of atoms and molecules of helium and neon which arises during bombardment of metal targets by ions of  $\text{He}^+$  or  $\text{Ne}^+$  is emitted by particles of the corresponding gas located inside hollow spherulites formed during growth of the film under bombardment. The influence of the film temperature on the intensity of the emitted luminescence as well as the change in the nature and intensity of luminescence when there is a change in bombarding beams is explained on the basis of the proposed mechanism of luminescence of polymer films. A mechanism is also proposed for luminescence of polymer films  
1/2

USSR

GRITSYNA, V. V. et al., ZhETF, Vol 64, No 1, Jan 73, pp 207-216

formed on the surface of dielectric targets by ion-beam bombardment. It is assumed that luminescence in this case arises as a result of the excitation of gas which has accumulated in the cavities between the substrate and the polymer film where it is peeling off.

2/2

- 75 -

USSR

UDC 537.534+535.337

GRITSYNA, V. V., KIYAN, T. S., GOUTTE, R., KOVAL, A. G., and FOGEL', YA. M.,  
(R. Goutte affiliated with the National Institute of Applied Sciences, Lyons,  
France)

"Effect of Nonradiative Transitions on the Emission Spectrum of Excited Particles  
Knocked Out of Solid Targets by Fast Argon Ions"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, No. 3, Mar 71,  
pp 578-584

Abstract: The effect of the resonance ionization process on the spectrum emitted by excited particles knocked out of solid targets - a metal (Cu), a semiconductor (Si), and a dielectric ( $Al_2O_3$ )-by 20 keV Ar<sup>+</sup> ions was studied. Results show that resonance processes of excitation loss occurring when excited particles fly off the surface of a solid have a considerable effect on the emission spectrum of particles knocked out of its surface by an ion beam. It is suggested that the location of energy levels of a solid with a known energy spectrum can be predicted on the basis of the radiation of the emission spectrum of particles knocked out of the surface of the solid by an ion beam.

1/1

- 109 -

USSR

UDC: 535.33:546.292

GRITSYNA, V. V., MIYAN, T. S., FOGEL', Ya. M., KOVAL', A. G., and KLIMOVSKIY, Yu. A.

"Glow of Slow Neon Particles Appearing in the Bombardment of Carbon Films by a Beam of Fast Neon Ions"

Leningrad, Optika i Spektroskopiya, Vol. 29, No. 4, 1970, pp 641-643

Abstract: This is the third paper published by the first four of the authors named above on the same subject. In the two earlier papers (ZhETF, Letters to the Editor, 9, 1969, p 212; 58, No. 5, 1970) the authors reported discovery of a glow from slow helium atoms and molecules resulting from prolonged bombardment of hard targets of Ni, Pd, Pt, Ta, and C by He<sup>+</sup> ions. This paper reports experiments conducted with carbon films as the targets for beams of N<sup>+</sup>, Ar<sup>+</sup>, and Ne<sup>+</sup>, with a beam density of about 30  $\mu\text{A}/\text{cm}^2$  and an ion energy of about 20 kev. When the N<sup>+</sup> ions were used, no glow was registered for the slow nitrogen particles. There was also no glow for slow argon particles upon bombardment of the film with Ar<sup>+</sup> ions. For the Ne particles, however, there was a glow, and the sole illustration in this short article shows the spectrum of this glow with a beam density of 10  $\mu\text{A}$ .

1/1

1/2 035 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--EJECTIN OF SLOW EXCITED HELIUM ATOMS AND MOLECULES FROM A CARBON  
FILM PRODUCED BY BOMBARDING SOLID TARGETS WITH FAST HELIUM IONS -U-  
AUTHOR--(04)-GRITSINA, V.V., KIYAN, T.S., KOVAL, A.G., FOGEL, YA.M.  
COUNTRY OF INFO--USSR  
SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,  
NR 5, PP 1491-1496  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--ION BOMBARDMENT, HELIUM, ATOM, MOLECULE, LUMINESCENT MATERIAL,  
CARBON, LUMINESCENCE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3002/0009 STEP NO--UR/0056/70/058/005/1491/1496  
CIRC ACCESSION NO--AP0127659  
UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0127659

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LUMINESCENT SLOW HELIUM ATOMS AND MOLECULES WERE OBSERVED BY BOMBARDING VARIOUS SOLID TARGETS WITH 20 KEV HE PRIME POSITIVE IONS. THIS LUMINESCENCE IS DUE TO THE SLOW HELIUM ATOMS AND MOLECULES EJECTED FROM THE CARBON FILM PRODUCED ON THE TARGET SURFACE AS A RESULT OF INTERACTION BETWEEN THE BOMBARDING BEAM IONS AND HYDROCARBON MOLECULES ADSORBED AT THE SURFACE. SOME CONSIDERATIONS PERTAINING TO THE LUMINESCENCE MECHANISM OF THE HELIUM ATOMS AND MOLECULES ARE PRESENTED. FACILITY: KHAR'KOVSKIY GOSUDARSTVENNYI UNIVERSITET IM. A. M. GOR'KOGO.

UNCLASSIFIED

Devices

USSR

UDC 621.372.54

KIYANOVSKIY, F.V.

"Active R-C Filter Of Infralow Frequencies"

Moscow, Pribory i Tekhnika Eksperimenta, No 5, Sept-Oct 1971, pp 115-116

Abstract: An active R-C filter for separation of infralow frequency signals from d-c signals is described. The filter is composed of standard sections of the 2-d order. In the filter an amplifier is used based on field-effect and bipolar transistors, which makes it possible to reduce the dimensions of the filter and to increase its stability. The measured parameters of the filter are: cut-off frequency, 0.25 Hz; frequency of delay, 0.1 Hz. The attenuation of the signal at the frequency of delay amounts to 33 db. The principal circuit of one section of the filter and the amplitude-frequency characteristics of the filter are shown. Received by editors 12 Jan 71. 5 ref. 2 fig. 1 tab. [Institut organicheskoy khimii AN SSSR--Institute Of Organic Chemistry, Academy Of Sciences, USSR]

1/1

USSR

UDC 621.371.029.55 8

VSEKHOSVYATSKAYA, I. S., GLADYSHEVA, M. V., GORSHKOVA, E. Z.,  
DUMBRAVA, Z. F., YEROFEYEV, N. M., ZOLOTAREV, A. Ye., KIYANOVSKIY,  
M. P., MAL'SHAKOV, V. N., NOVIKOVA, L. N., PEZHEMSKAYA, H. D.,  
PODDEL'SKIY, N. P., and RUDYKA, L. V.

"Some Results of Investigations Into Tilted Short-Pulse Sounding  
in Ranges up to 400 km Long"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl.  
Sekts. 1 (Tenth All-Union Conference on the Propagation of Radio  
Waves; Report Theses; Section 1--collection of works) "Nauka,"  
1972, pp 347-348 (from RZh--Radiotekhnika, No 10, 1972, Abstract  
No 10A333)

Translation: Results are given of the selection of optimal operat-  
ing frequencies for ranges of varying extent, the identification  
of propagation modes, and the determination of the spectral char-  
acteristics of the fluctuations in signal level. A. L.

1/1

1/2 019 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--A METHOD OF SOLVING THE PROBLEM OF THE PROPAGATION OF  
ELECTROMAGNETIC WAVES IN A THREE DIMENSIONALLY INHOMOGENEOUS ISOTROPIC  
AUTHOR--YEGDROV, I.B., KIYANOVSKIY, M.P.  
COUNTRY OF INFO--USSR  
SOURCE--GEOMAGNETIZM I AERONOMIYA, VOL 10, NO. 1, 1970, P 139-141  
DATE PUBLISHED-----70  
SUBJECT AREAS--ATMOSPHERIC SCIENCES  
TOPIC TAGS--ELECTROMAGNETIC WAVE PROPAGATION, IONOSPHERE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1986/0756 STEP NO--UR/0203/70/010/001/0139/0141  
CIRC ACCESSION NO--AP0102721

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102721

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF A METHOD OF DETERMINING (WITHIN THE FRAMEWORK OF GEOMETRICAL OPTICS) THE PHASE, AMPLITUDE, AND POLARIZATION OF AN ELECTROMAGNETIC WAVE PROPAGATING IN A THREE DIMENSIONALLY INHOMOGENEOUS ISOTROPIC IONOSPHERE. IT IS ALSO POSSIBLE TO SIMULTANEOUSLY CALCULATE THE BASIC CHARACTERISTICS OF PROPAGATION IN A PATH: THE GROUP TRAJECTORY, THE DISTANCE BETWEEN STATIONS, ABSORPTION ALONG THE BEAM IN THE IONOSPHERE, ANGLE OF ARRIVAL, AND THE MINIMUM USABLE FREQUENCY.

UNCLASSIFIED

UDC 621.371:551.510.535

KISELEVA, M. V., KIYANOVSKIY, M. E., KNYAZYUK, V. S., LYARHOVA, L. N., YUDOVICH, L. A.

"Forecasting the Critical Frequencies of the F2 Region"

V sb. Ionosfer. vozmushcheniya i ikh vliyaniye na radiosvyaz' (Ionospheric Disturbances and Their Effect on Radio Communications -- collection of works), Moscow, Nauka Press, 1971, pp 74-99 (from RZh-Radiotekhnika, No 1, 1972, Abstract No 1A333)

Translation: A study was made of the time and space correlations between the deviations of the critical frequencies of the F2 region from the normal values ( $\Delta f_{F2}$ ) with respect to ionospheric data for the year of the maximum (1958) and minimum (1964) solar activity. The results with respect to the time correlation are reduced to the following: 1) for middle latitudes, the time stability is greater on days with negative disturbances and least of all on days with positive disturbances; in the equatorial latitudes, on the contrary, the time stability is greatest on days of positive disturbances; 2) in the summer the stability is greater than in the winter; 3) during the day the stability is somewhat higher than at night; 4) during the year of the maximum the stability is higher on the average than during the year of the minimum. The stability  
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USSR

KISELEVA, M. V., et al., Ionosfer. vozmushcheniya i ikh vliyaniye na radiosvyaz', Moscow, Nauka Press, 1971, pp 74-99

interval (the time period when the correlation coefficient  $\rho \geq 0.5$ ) is highest at latitudes of 40-60°. It drops at latitudes of 10-30° and again increases at the equatorial stations but appreciably less. The time correlation offers the possibility of extrapolation with respect to time in the middle latitudes, especially under conditions of negative disturbance. For the most favorable cases, the correlation equations are compiled for this purpose. A study of the spatial correlation confirmed a strong decrease in the correlation coefficient  $\rho$  with distance with respect to longitude and especially with respect to latitude. The spatial correlation is somewhat higher during negative disturbances during the years of maximum solar activity; during the day it is greater than at night. There are 6 illustrations, 8 tables and an 18-entry bibliography.

2/2

61

USSR

UDC 615.37.012.6.078

*R*  
KIYANSKAYA, L. A., SYSOYEV, Yu. P., and AKATOVA, N. S., Leningrad Branch, All Union Scientific Research Institute of Medical Instrument Building, and Control Institute of Medical and Biological Preparations imeni L. A. Tarasevich

"The Fluorometric Method for Determining the Concentration of Microbial Cells in Suspensions"

Moscow, Laboratornoye Delo, No 4, 1970, pp 246-248

Abstract: The principle of fluorescent staining was used to determine the concentration of cells in suspensions. It was noted that after exposure to ultraviolet light, a suspension of microbial cells labeled with a luminescent dye luminesces with an intensity directly proportional to the concentration of the microbes in the range of  $5 \cdot 10^7$  --  $20 \cdot 10^7$  cells per ml. The shape and size of the microorganisms do not affect this relationship.

1/1

1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--AN OPERATION WITHOUT THE SCALPEL -U-  
AUTHOR--KIYANSKIY, D.  
COUNTRY OF INFO--USSR  
SOURCE--KAZAKHSTANSKAYA PRAVDA, JULY 15, 1970, P 4, COLS 1-4  
DATE PUBLISHED--15JUL70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ADRENAL CORTEX, INHIBITION, DDT INSECTICIDE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1996/1237 STEP NO--UR/9004/70/000/000/0004/0004  
CIRC ACCESSION NO--AN0118290  
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AN0118290  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. STUDIES OF DDT AS A POSSIBLE AGENT FOR INHIBITING THE OVERACTIVE CORTEX OF THE SUPRARENAL GLANDS WERE FOR THE FIRST TIME INITIATED IN THE SOVIET UNION UNDER THE DIRECTION OF VASILITY PAVLOVICH KOMISSARENKO, MEMBER OF THE UKRAINIAN ACADEMY OF SCIENCES, AT THE LABORATORY OF PATHOLOGICAL PHYSIOLOGY OF THE KIYEV SCIENTIFIC RESEARCH INSTITUTE OF ENDOCRINOLOGY AND METABOLISM. THE INSTITUTE IS UNDER THE JURISDICTION OF THE MINISTRY OF PUBLIC HEALTH OF THE UKRAINIAN REPUBLIC. PRINCIPAL RESEARCHERS WERE DOCTOR OF SCIENCES VADIM MAKSIMOVICH GORDIYENKO, AND CANDIDATE OF SCIENCES ALEKSANDR GRIGOR, YEVICH REZNIKOV. CANDIDATE OF CHEMICAL SCIENCES YAROSLAV GRIGOR, YEVICH BAL, YON AND CHEMICAL ENGINEER MILA DAVIDOVNA SHUL'MAN, ASSOCIATES OF THE LABORATORY OF ORGANIC SYNTHESIS AND REAGENTS, DEVELOPED AN ORIGINAL METHOD FOR MAKING CHEMICALLY PURE DDT NEEDED FOR THE EXPERIMENTS. THE EXPERIMENTS PROVED THAT THE ORTHOPARASOMER OF DDT, NAMED "KHLODITAN", CAUSES THE ATROPHY OF THE CORTEX AND INHIBIT THE PRODUCTION OF HORMONES. CLINICAL TESTS OF THE KHLODITAN WERE APPROVED LAST YEAR BY THE PHARMACOLOGICAL COMMITTEE OF THE MINISTRY OF PUBLIC HEALTH, U.S.S.R., FOR TREATING CANCER OF THE SUPRARENAL GLAND CORTEX.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--EIGHT TIMES THE SPEED OF SOUND -U-  
AUTHOR--KIYANSKIY, D.  
COUNTRY OF INFO--USSR  
SOURCE--RABOCHAYA GAZETA, MAY 17, 1970, P 4, COLS 1-8  
DATE PUBLISHED--17MAY70  
SUBJECT AREAS--AERONAUTICS  
TOPIC TAGS--AIRCRAFT SPECIFICATION, SUPERSONIC AIRCRAFT, AIR PASSENGER  
TRANSPORT, PHOTOGRAPH/(U)TU144 AIRCRAFT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1987/0837 STEP NO--UR/9015/70/000/000/0004/0004  
CIRC ACCESSION NO--AN0104276  
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AN0104276

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE SPECULATES ON THE FUTURE OF AIRCRAFT. IT QUOTES A. A. TUPOLEV PREDICTION, MADE IN 1969, THAT THE VEHICLE OF THE FUTURE WILL FLY AT AN ALTITUDE OF 30 KMS AT SPEEDS UP TO 10,000 KMS PER HOUR. THE AUTHOR OF THE ARTICLE ENVISIONS THE NEXT STAGE OF THE DEVELOPMENT OF SUPERSONIC LINERS MOVING IN THE DIRECTION OF HIGHER SPEEDS, MACH 3, AND GREATER CAPACITY, 180-200 PASSENGERS. ZHAN SERGEYEVICH CHERNENKO, HEAD OF THE CHAIR OF DESIGN AND STRENGTH OF FLYING VEHICLES OF THE KIEV INSTITUTE OF CIVIL AVIATION ENGINEERS, CANDIDATE OF TECHNICAL SCIENCES, IS QUOTED AS PREDICTING THAT STRATOSPHERIC SHIPS CAPABLE OF TRANSPORTING 1,000 PASSENGERS AT A SPEED OF 10,000 KMS PER HOUR WILL MAKE THEIR APPEARANCE IN THE YEAR 2000. A PHOTOGRAPH OF THE TU144 IN FLIGHT IS GIVEN.

UNCLASSIFIED

USSR

UDC: 681.128

KIYASHEV, A. I., Engineer, PIVTSAYEV, I. I., Engineer, POLE-TAYEV, B. K., Engineer, SHAROV, V. A., Engineer

"A Resonance Level Indicator for Measuring the Level of the Interface Between Two Media"

Moscow, Pribory i Sistemy Upravleniya, No 1, Jan 72, pp 46-48

Abstract: The paper describes a resonance level indicator for measuring the level of the interface between a "light" dielectric liquid and a "heavy" electrically conductive liquid. The instrument is based on a resonance method of measurement developed at the Institute of Control Problems, Academy of Sciences of the USSR. The device is designed for use with a dielectric liquid having a permittivity of 1.8-2.5 and a conductive liquid with conductivity of more than 2 mho/m. The pickup is a section of nonhomogeneous long line shorted at the end with a resonance frequency which changes in proportion with the level of the liquid interface. The pickup parameters are calculated and a block diagram of the level indicator is

1/2

USSR

UDO 621.385.833.28:[621.385.832:621.317.755]002

DERKACH, V.P., KIYASHKO, G.F., KUKHARCHUK, M.S.

"Scanning Microscope Using Oscillographic Tube"

Elektron. tekhnika. Nauch.-tekhn. sb. Kontrol'no-izmerit. apparatura (Electronics Technology. Scientific-Technical Collection. Monitoring And Testing Equipment), 1971, Issue 1(22), pp 89-98 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10A265)

Translation: A device is described which acts according to the principles of the scanning electron microscope and which makes it possible to study the physical pattern of the surface of objects. The small dimensions of the pickup unit make it possible for all practical purposes to place it in any functioning vacuum chamber and to fulfill investigations as part of the preparation or processing of an object without depressurizing the chamber. Summary.

1/1

- 66 -

USSR

UDC 632.594:633.032.3

KIYASHKO, I. I., All Union Scientific Research Institute of Fodder

"Use of Herbicides in Improving Pastures in the Mountainous Regions of Dagistan"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 11, No 8 (118), 1973, pp 58-63

Abstract: Paraquat (2 kg per hectare) and dolopan (10-20 kg/hectare) were found to be suitable for the treatment of poorly productive, mountainous, subalpine pastures with grainy, mixed grass cover. On the sections suitable to light mechanical soil cultivation the use of herbicides in destroying the old grass cover should be carried out in conjunction with disking, which improves the growing conditions for grass seeds and the botanical composition of the grass cover. The herbicides may be used in any of the three seasons: spring, summer or fall with about the same results, leading to highly productive grass cover with low content of mixed grass growth.

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USSR

UDC 539.30

KVITKA, A. L., ~~KIYASHKO, L. YE.~~, Institute of Problems of Strength, Academy of Sciences UkrSSR, Kiev

"Study of the Stressed State of Bodies of Rotation of Arbitrary Configuration Under Tortion. Communication 1"

Kiev, Problemy prochnosti, No. 8, Aug 71, pp 3-7

Abstract: The AL'GIBR program is presented for determining stresses under torsion of a body of rotation of arbitrary form. The AL'GIBR language is a hardware representation of the input language used by the AL'GIBR translator. It is noted that many structural elements in modern turbines have the shape of bodies of rotation of complex form and that they are subject to a complex of external loads causing torsion, bending, stretching, and axisymmetric deformation. This article is devoted to calculating the strength of such elements under torsion. It is pointed out that it is necessary to know the greatest stresses in the zone of the structural concentrator but that it is possible to make an exact analytical determination of these stresses only for a very limited class of structures, since the majority of such problems are not subject to solution by classical methods. Computer methods are therefore applied. A

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USSR

- KVIKA, A. L., KIYASHKO, L. YE., Problemy prochnosti, No. 8, Aug 71, pp 3-7

system of finite difference equations is derived for the stress state of a body of rotation of any form under torsion. Various approaches to the construction of the finite-difference grid are discussed. It is recommended that a grid of arbitrary triangles or rectangles be used to ensure the necessary bunching in the zone of structural concentrators and at the boundary of the region, and using only a minimum number of grid points in the remaining part of the region. In this case a grid of arbitrary rectangles was used to ensure a good approximation of the curved boundary.

2/2

- 94 -

USSR

UDC 632.95

ARNOL'DOV, Ye. M., MITYAKINSKIY, V. I., GLADILIN, I. N., YAKUBA, A. R.,  
KOSTITSIN, B. A., KIYASHKO, V. K., KAZ'MIN, M. F., SHUL'MAN, V. N.

"A Method of Making the Discharge Form of Copper 2,4,5-Trichlorophenoxide"

USSR Author's Certificate No 345121, filed 14 Feb 69, published 9 Aug 72  
(from RZh-Khimiya, No 9, May 73, abstract No 9N509P by T. G. Chekareva)

Translation: A method is proposed for making a commercial form of copper, 2,4,5-trichlorophenoxide (I) used in making poisons. A wet paste of compound I is filtered, pressed to a moisture content of 50-55%, loaded into a crank mixer, and mixed with talc and kaolin in a ratio of 1:1:2 respectively. The mixture is agitated for 1-2 hours. It is then loaded as a powder containing 16-20% moisture into a drier with a fluidized bed of inert material. The degree of moisturizing of the dry product in the cyclone is of the order of 96-97%.

1/1

USSR

UDC 621.373.826:550.3

GEL'FER, E. I., KIYAZEVA, M. M., POSTNIKOVA, T. A., and  
CHEREMUKHIN, A. M.

"Correlation of Laser Beam Focusing Intensity"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl.  
(Tenth All-Union Conference on the Propagation of Radio Waves;  
Report Theses--collection of works) "Nauka," 1972, pp 250-253 (from  
RZh--Radiotekhnika, No 10, 1972, Abstract No 10D379)

Translation: The spatial structure of the intensity in the focal plane of a focused laser beam passing through a layer of turbulent atmosphere is investigated. Two identical positive images of the beam cross section are put in a two-dimensional optical correlometer to permit obtaining the correlation function of the intensity by using information regarding the intensity value over the whole beam cross section. The correlation function was measured for five different distances. The obtained radii of the correlation of intensity in the focal plane are found, in their order of magnitude, to be closer to the intensity correlation radius for an infinite plane wave (about  $\sqrt{\lambda h}$ ) than to the diffraction dimension  $(\lambda/d)L$ .  
A. K.

1/1

- 76 -

## Luminescence

USSR

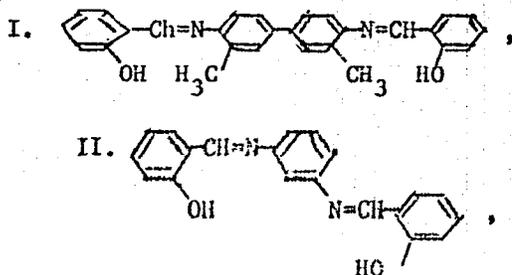
UDC 535.37+541.14

KIYAZHANSKIY, M. I., ASMAYEV, O. T., OSIPOV, O. A., KRASOVITSKIY, B. M.

"Luminescence and Photochemistry of Azomethyne Compounds. VII. Multinuclear Mono and Bis-azomethynes in the Crystal State"

Moscow, Zhurnal Fizicheskoy Khimii, Vol XLVI, No 1, 1972, pp 178-180

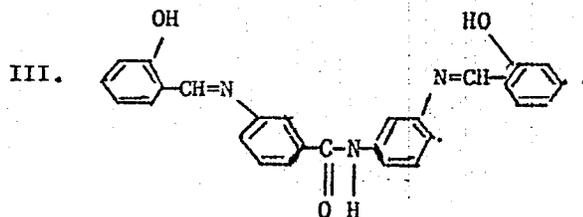
Abstract: In order to discover the effect of the length of the chain of conjugate bonds on the thermophotochromy of azomethynes, a study was made of some multinuclear mono and bis-azomethynes in the crystal state studied in detail in solutions previously [B. M. Krasovitskiy, et al., *Zh. fiz. khimii*, 45, 1467, 1971; O. T. Asmayev, et al., *Zh. fiz. khimii*, in printing]. The following compounds were selected for more detailed study:



1/2

USSR

KIYAZHANSKIY, M. I., et al., Zhurnal Fizicheskoy Khimii, Vol XLVI, No 1, 1972, pp 178-180



The investigated multinuclear mono and bis-azomethynes in the crystal state reveal both photochromy and thermochromy. In contrast to the derivatives of salicylalaniline, the indicated compounds are luminescent, and the thermochromy and photochromy do not mutually exclude each other. Absorption spectra are presented. An explanation for the experimental data is offered by which on excitation in the benzoid form, phototransfer of a proton takes place with the formation of the quinoid form and subsequent emission either in the trans and cis-quinoid or only in the cis-quinoid. The latter is a specific characteristic of the crystalline state.

2/2

1/2 019

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--EFFECT OF THYROID HORMONES ON THE PANCREATIC SECRETORY ACTIVITY -U-

AUTHOR--KIYENYA, A.I.

K

COUNTRY OF INFO--USSR

SOURCE--FIZIOL. ZH. SSSR IM. I.M. SECHENOVA 1970, 56(2), 266-72

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--THYROID HORMONE, PANCREAS, CHOLINERGIC BLOCKING AGENT,  
ATROPINE, PARASYMPATHETIC NERVOUS SYSTEM, SYMPATHETIC NERVOUS SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1997/0117

STEP NO--UR/0239/70/056/002/0266/0272

CIRC ACCESSION NO--AP0119113

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119113

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDIES ON HOGS WITH BASOV GASTRIC FISTULAS AND WITH INTESTINAL PANCREATIC FISTULAS SHOWED THAT THYROIDIN INHIBITION OF PANCREATIC SECRETION INCREASED DURING ATROPINE BLOCKADE OF CHOLINERGIC STRUCTURES, BUT DECREASED DURING BLOCKING OF THE ADRENERGIC STRUCTURES BY DIHYDROERGOTOXIN. THIS SUGGESTS THAT BOTH THE SYMPATHETIC AND PARASYMPATHETIC NERVOUS SYSTEMS HELP REGULATE PANCREATIC SECRETION DURING THYROIDIN HYPERTHYROIDISM. FACILITY: STATE UNIV., GOMEL, USSR.

UNCLASSIFIED

1/2 040

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--REDISTRIBUTION OF COMPONENTS IN SOLIS SOLUTIONS STUDIED BY X RAY SPECTRAL MICROANALYSIS AND ELECTRON MICROSCOPY -U-

AUTHOR--(05)-KIYEVSKAYA, N.KH., KOPP, L.P., BRUK, B.I., NYRKOVSKAYA, V.V., KOROLEVA, N.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL METALLOVED. 1970, 29(2), 409-13

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ELECTRON MICROSCOPY, SOLID SOLUTION, TRACE ANALYSIS, CRYSTAL LATTICE, ALUMINUM ALLOY, IRON ALLOY, COPPER ALLOY, GRAIN BOUNDARY, SURFACE ENERGY, X RAY SPECTRUM, MOLYBDENUM CONTAINING ALLOY, TUNGSTEN CONTAINING ALLOY, TIN CONTAINING ALLOY, COPPER CONTAINING ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3001/0324

STEP NO--UR/0126/70/029/002/0409/0413

CIRC ACCESSION NO--AP0126081

UNCLASSIFIED

2/2 040

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0126081

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOLLOWING 6 ALLOYS WERE INVESTIGATED: FE PLUS 0.75PERCENT CU; FE PLUS 8.25PERCENT MO; FE PLUS 7.63PERCENT W; CU PLUS 1.78PERCENT FE; CU PLUS 11.2PERCENT SN; AND AL PLUS 2.1PERCENT CU. THE SAMPLES WERE SUBJECTED TO HIGH TEMP. DIFFUSION ANNEALING, THEN TO SECONDARY ANNEALING AND QUENCHING. IN ALLOYS QUENCHED FROM THE HOMOGENEOUS REGION THE GRAIN BOUNDARIES ARE MARKEDLY ENRICHED WITH THE SECONDARY COMPONENT AS COMPARED TO THE INTERNAL VOL. OF THE GRAINS. THE EXTENT OF THIS ENRICHMENT, AS A RULE, INCREASES AS THE ALLOY IS CLOSER TO THE SOLY. LIMIT. THE CONCNS. OF THE COMPONENTS AT THE GRAIN BOUNDARIES IN THE ABSENCE OF PPTS. OF THE SECONDARY PHASE ALMOST ALWAYS EXCEEDS THE LIMITING SOLY. OF THE ELEMENT (WHEN FAR REMOVED FROM THE SOLY. LIMIT), THIS POINTS TO THE FORMATION OF AT. GROUPS ALONG THE GRAIN BOUNDARIES. THE NONREPRODUCIBILITY OF THE RESULTS ATTESTS TO THE NONUNIFORM DISTRIBUTION OF THE ELEMENT ALONG THE GRAIN BOUNDARIES. THE REASON FOR THIS MUST PROBABLY BE TRACED BACK TO THE DIFFERENCE IN THE MUTUAL ORIENTATION ANGLE OF THE CRYST. LATTICES AT VARIOUS POINTS OF THE TOUCHING GRAINS. WHEN THIS ANGLE IS 45DEGREES, THE FREE SURFACE ENERGY IS AT ITS MAX., AND THE POINT CONC. OF THE ELEMENT IS THE MOST PROBABLE. ON THE OTHER HAND, AT THOSE POINTS WHERE THE ANGLE IS CLOSE TO 0 OR TO 90DEGREES, THE FREE SURFACE ENERGY IS AT ITS MIN. AN ATTEMPT IS MADE TO EXPLAIN THESE ANOMALIES.  
FACILITY: SEV.-ZAPAD. ZAOCH. POLITEKH. INST., LENINGRAD, USSR.

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USSR

UDC 539.3:534.231.1

KIYKO, I. A., Scientific Research Institute of Mechanics

"Longitudinal Shock Over a Thin Cylindrical Shell"

Moscow, Vestnik Moskovskogo universiteta, Seriya I, Matematika, Mekhanika, No. 3, May/Jun 72, pp 118-121

Abstract: Photographic studies of shells to which a shock with constant velocity has been applied at the lower end are analyzed. It is noted that there has been relatively little experimental study of the motion of a cylindrical shell under a longitudinal shock. It was first studied by Lavrent'yev and Ishlinskiy in 1949, who showed that motion corresponding to higher forms of stability loss can arise under dynamic loads. A. Koppa showed in 1961 that the shell takes on the shape of a piecewise-smooth surface isothermal to the cylinder. Lindburg and Herbert used high-speed photography to record the development of the shapes of deflections of a shell, the loading velocity of which was such that the stress arising behind the front of a longitudinal wave exceeded the upper critical stress by approximately a factor of 1.5. The author previously performed the same study for a wide range of loading velocities; this article presents new

1/2

USSR

KIYKO, I. A., Vestnik Moskovskogo universiteta, Seriya I, Matematika, Mekhanika, No. 3, May/Jun 72, pp 118-121

results based on the method described in that article. The photographs show that the motion of the shell can be divided into two stages. In the first stage when the longitudinal perturbation wave goes through a distance equal to the diameter of the shell, the axisymmetric form of motion is characteristic, or there is a loss of stability as shown by other authors. In the second stage this shape transforms into a characteristic rhombic form which can be described as a piecewise-smooth bending of the cylindrical surface. The initial irregularity in the shape has practically no effect on the nature of the motion and the method of fabricating the shell seems unessential. As regards a qualitative conclusion concerning the character of the motion of a shell under the rise of plastic deformations, it is noted that the deformation with the course of time is concentrated at the end at which the shock occurs and is rapidly damped as the distance from it increases.

2/2

- 62 -

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--INFLUENCE OF THE AMOUNT OF SOLVENT, ACETIC ACID, ON THE OXIDATION  
OF 2,6-DIMETHYLNAPHTHALENE OVER COBALT MANGANESE BROMIDE CATALYSTS -U-  
AUTHOR--KIYKO, I.I.  
COUNTRY OF INFO--USSR  
SOURCE--LEKG. PROM. (KIEV) 1970, NO. 4, 163-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--CATALYTIC OXIDATION, ALKYL RADICAL, NAPHTHALENE, CARBOXYLIC  
ACID, COBALT, MANGANESE COMPOUND, BROMIDE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY FICHE NO----FD70/605019/811 STEP NO--UR/0518/70/000/004/0163/0167  
CIRC ACCESSION NO--AP0140909  
UNCLASSIFIED

2/2 015  
CIRC ACCESSION NO--AP0140909 UNCLASSIFIED PROCESSING DATE--04DEC70  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OXIDN. OF 0.5 G  
2,6-DIMETHYLNAPHTHALENE (I) OVER 0.02 G COBR SUB2 .6H SUB2 D AND 0.02 G  
NABR WAS CARRIED OUT AT 1425 MM D AT 100DEGREES IN 2.0-23.0 ML ACOH.  
MAX. YIELD OF MONOCARBOXYLIC ACID WAS OBTAINED IN 3 ML ACOH, OF  
DICARBOXYLIC ACID IN 18 ML ACOH. MAX. YIELD FOR THE TWO ACIDS WAS  
OBTAINED WITH 1:28 I-ACOH. THE ABSORPTION RATE OF D WAS KINETICALLY  
OBSD. FOR VARIOUS AMTS. OF ACOH.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--EXPERIENCE IN OPERATING INTRAOCULAR TENSION INDICATOR -U-  
AUTHOR--(02)-BELENKIY, K.R., KIYKO, YU.I. K  
COUNTRY OF INFO--USSR  
SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 3, PP 37-38  
DATE PUBLISHED--70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--SURGERY, EYE DISEASE, HYPERTENSION, MEDICAL EXAMINATION,  
HEMODYNAMICS, MEDICAL EQUIPMENT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3003/0115 STEP NO--UR/0357/70/000/003/0037/0038  
CIRC ACCESSION NO--AP0129371  
UNCLASSIFIED

2/2 029

CIRC ACCESSION NO--AP0129371

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS MADE A COMPARATIVE ASSESSMENT OF MAKLAKOV'S TONOMETER AND INTRAOCULAR TENSION INDICATOR READINGS IN 112 EYES OF 86 PERSONS WITH SUBCOMPENSATED GLAUCOMA. THE CONTROL GROUP INCLUDED 39 SUBJECTS (78 EYES) IN WHOM GLAUCOMA WAS RULED OUT THROUGH EXAMINATION IN A NIGHT HOSPITAL. THE AUTHORS HAVE COME TO A CONCLUSION THAT IN MASS EXAMINATIONS FOR GLAUCOMA THE INDICATOR SHOULD BE EMPLOYED IN INSTITUTING ORTHOCLINOSTATIC TEST AFTER M. M. KRASNOV. IN ADDITION TO TONOMETRY AFTER MAKLAKOV ONE OF HEMODYNAMIC TESTS HAS TO BE EFFECTED TO IMPROVE THE QUALITY OF PRIMARY EXAMINATIONS FOR GLAUCOMA. FACILITY: UFIMSKIY NAUCHNO ISSLED. INSTITUT GLAZNYKH BOLEZNEY.

UNCLASSIFIED

USSR

UDC 621.396.933.2

BALANDIN, V. I., KIYLO, L. E., OKEANOV, Ye. N., KHOSID, S. R.

"An Automatic Keyer"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 33, Soviet Patent No 285067, class 21, filed 29 Aug 68, published 29 Oct 70, p 46

Translation: This Author's Certificate introduces an automatic keyer which contains a cadence pulse generator with frequency divider, a programmed decoder, a trigger-type direction-finding signal shaper, a reset circuit, an OR circuit with output connected to a switch in the supply circuit of the recognition signal decoder, a controlling device, and an output amplifier. As a distinguishing feature of the patent, to ensure universality in shaping the call signal and in the modes of operation, the keyer contains an additional OR circuit connected between the outputs of the recognition signal decoder and the input of the controlling device, as well as a mode switch whose inputs are connected to the programmed decoder while the outputs are connected to the above-mentioned controlling device and the reset circuit.

1/1